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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/717,824	11/20/2003	Martin E. Banton	D/A2454	8574

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EXAMINER

WOLDEMARIAM, AKILILU K

ART UNIT	PAPER NUMBER
2609	

MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/717,824 Examiner Aklilu k. Woldemariam	BANTON, MARTIN E. Art Unit 2609	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 19 May 2004.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-6 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-6 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 20 November 2003 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date : <u>19 May 2004</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement (IDS) submitted on 20 November 2003 was filed after the mailing date of the same day on 20 November 2003. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the examiner is considering the information disclosure statement.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3 **Claims 1-6** are rejected under 35 U.S.C. 101 because the claimed invention is not supported by either an asserted utility or a well-established utility. No Physical transformation is present to establish a practical application of the abstract idea. The result (designing two separable filters that approximates the circularly symmetric frequency response) is useful (establishes the specific, substantial, and credible utility designing filters) only if at least made available for use in the disclosed practical application, concrete it the designing two separable filters is based on objective criteria, and tangible if it is more than just a thought or computation within a digital processor, instead being a real world result. In this instance, claims 1-6 do not appear to produce a tangible result such that the usefulness of the designing two separable filters can be realized. It, therefore, appears to be non-statutory.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. **Claims 1-6** are also rejected under 35 U.S.C. 112, first paragraph. Specifically, since the claimed invention is not supported by either an asserted utility or a well established utility for the reasons set forth above, one skilled in the art clearly would not know how to use the claimed invention.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

7. The phrase "for example" renders the claims 3, 4 are indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. **Claims 1-6** are rejected under 35 U.S.C. 103(a) as being unpatentable over James et al. (U.S. Patent number 6018596A) in view of Dawn et al. (U.S. Patent Number 5751862A)

10. **Regarding to claim 1**, James teaches that a method for designing filters that approximates the circularly symmetric frequency response achievable using a non-separable filter comprising:

- (a) selecting a cut-off frequency (see Fig. 7, column 4 line 41-45) and designing therefrom a 1-D low pass filter LP such that: $LP = [X_{-n}, X_{-(n-1)}, \dots X_0, \dots X_{n-1}, X_n]$ (see Fig.2A, 2B);
- (b) obtaining a 2-D filter LPP (see Fig. 2) by performing the operation: $LP^* \times LP$ wherein LP^* is a column vector (see Fig.5) having the same entries as LP and LPP having dimensions given by: $\{2n+1, 2n+1\}$ (see column 4 lines 6-13) and generating a 2-D countour plot therefor;
- (c) designing a 1-D high pass filter HP such that: $HP = [Y_{-m}, Y_{-(m-1)}, \dots Y_0, \dots Y_{m-1}, Y_m]$ (see Fig.2C, 2D);
- (d) obtaining a 2-D filter HPP (Fig.2) by performing the operation: $HP^* \times HP$ wherein HP^* is a column vector (see Fig.5) having the same entries as HP and HPP having dimensions: $\{2m+1, 2m+1\}$ (see column 4 lines 6-13) and obtaining a 2-D contour plot therefor;
- (e) repeating (c) through (d) until the 2-D contour plot of HPP overlaps the 2-D countour plot of LPP (see Fig. 13, column 6 lines 56-59);
- (f) generating a 2-D filter (Fig.2) ONE having the dimensions of that of HPP with the only non-zero entry of value 1 located at the center of ONE;

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(g) Convolving LPP with HPPinv to obtain DSCRN having dimensions: { $2m+2n+1$, $2m+2n+1$ } (see Fig.13, column 6 lines 45-59) and obtaining a 2-D contour plot therefor; and

(i) repeating (a) through (h) until, by an examination of the 2-D contour plot of DSCRN, an approximation to a desired circular symmetry is achieved.

James does not explicitly teach (g) creating matrix HPPinv by subtracting HPP from ONE.

However, Dawn et al. teaches' (g) creating matrix HPPinv by subtracting HPP from ONE (column 22 lines 35-52).

James and Dawn are analogous art because they are from the field of endeavor of designing filters.

At the time of invention, it would have been obvious to someone of the ordinary skill in the art at the time when the invention was made to use Dawn's creating matrix HPPinv by subtracting HPP from ONE in James designing two separable filters. The motivation would have been [Dawn's] (column 22 lines 39-61). Therefore, it would have been obvious to combine [James] with [Dawn] to obtain the invention as specified in claim 1.

11. **Regarding to claim 2,** James teaches that a method as in claim 1, wherein the dimensions of filters LPP & HPP are such that the processing by a target media processor, Very Long Instruction Word (VLIW) processor, or Digital Signal Processor (DSP) is optimized (see abstract or column1 lines 37-39).

12. **Regarding to claim 3**, James teaches that a method as in claim 1, wherein one would descreen not by using the non-separable filter (Fig.3) DSCFn but by first applying the separable filter LPP (see Fig.2) and saving that result as, for example, video_1.

13. **Regarding to claim 4**, James teaches that a method as in claim 3, further comprising applying the HPP filter (Fig.3) to video_1 and saving that output as, for example, video_2.

14. **Regarding to claim 5**, James teaches that a method as in claim 4, further comprising subtracting video_2 from video_1 to yield descreened output (see column 3 lines 55-66).

15. **Regarding to claim 6**, James teaches that method as in claim 5, wherein DSCFN is applied to image data (see abstract) to determine whether the generated result accomplished an intended result.

Conclusion

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Merhav et al. (U.S. Patent Number 5,832,135) discloses filtering compressed images in the DCT Domain. Barbour et al. (U.S. Patent Number 7,099,519) discloses enhancing to a system of linear equations. Blinn et al. (U.S. Patent Number 6,816,622) discloses generating resized images using ripple free image. Lawton (U.S. Patent Number 6,771,836) discloses zero-crossing region filtering for processing.

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aklilu k. Woldemariam whose telephone number is 571-272-3247. The examiner can normally be reached on Monday-Thursday 6:300 a.m.-5:00 p.m EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alexander Eisen can be reached on 571-272-7687. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A.W
4/18/2007



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